

ABSTRACT

5 Methods of making a filter element may comprise inserting end portions of a filter and a core into a liquid bonding material of an end cap. The end portions may be inserted into the liquid bonding material at the same time or at different times. Inserting the end portion of the core into the liquid bonding material may include separating some of the liquid bonding material from the end portion of the filter. The end portion of the filter is bonded to the end cap, while the core may or may not be bonded to the end cap. The inner periphery of the end portion of the filter near the bond may be supported by an outer wall of the core.